

November 28, 2018

BY HAND DELIVERY AND ELECTRONIC MAIL

Luly E. Massaro, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

**RE: Docket 4755 – 2018 Energy Efficiency Program Plan
Responses to Division Data Requests – Set 9**

Dear Ms. Massaro:

I have enclosed ten copies of National Grid's¹ responses to the ninth set of data requests issued by the Rhode Island Division of Public Utilities and Carriers in the above-referenced docket.

Please note that the Company's responses to data requests Division 9-4, Division 9-6, Division 9-7, Division 9-10, Division 9-13, and Division 9-14 are pending.

Thank you for your attention to this filing. If you have any questions, please contact me at 781-907-2121.

Sincerely,



Raquel J. Webster

cc: Docket 4755 Service List
Jon Hagopian, Esq.
John Bell, Division

¹ The Narragansett Electric Company d/b/a National Grid (National Grid or Company).

Certificate of Service

I hereby certify that a copy of the cover letter and any materials accompanying this certificate was electronically transmitted to the individuals listed below.

The paper copies of this filing are being hand delivered to the Rhode Island Public Utilities Commission and to the Rhode Island Division of Public Utilities and Carriers.



Joanne M. Scanlon

November 28, 2018
Date

Docket No. 4755 - National Grid – Energy Efficiency Program Plan for 2018
Docket No. 4756 - National Grid – 2018 System Reliability Procurement
Report (SRP)
Service list updated 8/14/18

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The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-1

Request:

To be sure the Division understands the facts clearly, please confirm or correct the following statements:

- (a) The Navy will not be the owner or operator of the CHP unit. Rather, BQ Energy will be both the owner and operator of the CHP unit for the 30-year term of its lease with the Navy;
- (b) The Navy will not be the utility customer of record with respect to utility services provided to and from the CHP unit. Rather, BQ Energy will be the customer of record;
- (c) The Navy does not have any agreement with the Company relating to the CHP project. Rather, BQ Energy has a "Commercial Service/Main Agreement" with the Company that was executed on May 4, 2018;
- (d) It is the "Commercial Service/Main Agreement" with BQ Energy that the Company proposes to amend in order to include the conditions for shutting down the CHP unit on 52 HDD days, not any agreements directly with the Navy.

Response:

- (a) This statement is correct.
- (b) Originally, the Navy requested that BQ Energy, LLC (BQ) be the customer of record for the CHP unit gas service from The Narragansett Electric Company d/b/a National Grid (the Company). At the time BQ entered into the Commercial Gas Service/Main Agreement with the Company on May 4, 2018, the parties planned to have BQ manage the gas supply for the CHP unit, and the gas cost would be a pass-through to the Navy. As the project evolved, the Navy and BQ agreed that the Navy would be in a much better position to negotiate gas supply contracts than BQ. Accordingly, during an October 1, 2018 conference call among the Company, the Navy, and BQ, the Navy verbally requested that the Navy be the customer of record for gas service for the CHP unit. Accordingly, the current plan is that the Navy will be the customer of record with respect to utility services provided to and from the CHP unit.

Division 9-1, page 2

- (c) On October 1, 2018, the Navy requested that the Commercial Service/Main Agreement for the CHP unit be between the Company and the Navy instead of between National Grid and BQ. The Company is in the process of developing a new agreement to honor this request, and the agreement with BQ will be terminated.
- (d) Now that the Commercial Service/Main Agreement for the CHP unit will be between the Company and the Navy, the conditions for shutting down the CHP unit on 52 HDD days will be set forth in a set of Supplemental Conditions to that Agreement. On September 7, 2018, National Grid provided the Navy with general draft language regarding those conditions. The Navy has reviewed that general language and the overall concept. The Navy also understands that the Company has revised the agreement language and that the Division currently is reviewing it. The Company plans to share this revised language with the Navy once the Division has reviewed and approved it.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-2

Request:

In light of the serious gas-pressure events that occurred in Lawrence, Massachusetts with Columbia Gas, and in Woburn, Massachusetts with National Grid, it is extremely important that the Division and the Commission understand completely and fully what the risks, impacts, and potential consequences could be if the Navy CHP project is operating with firm gas service on a day when the temperature exceeds a 52 HDD threshold. Please provide a full and complete disclosure and explanation of these risks, impacts, and potential consequences, as the gas experts at National Grid understand them. Please be sure to address the impacts and consequences to all other gas distribution customers, as well as the Navy base itself, including a description of all the main contingencies. The Division respectfully insists that a qualified employee from National Grid's gas department sponsor this response.

Response:

The expected consequence of the Navy CHP project operating with firm gas service on a day when the temperature exceeds the 52 HDD threshold is that The Narragansett Electric Company d/b/a National Grid (the Company) likely would exceed its gas supply maximum daily quantity (MDQ) at the Portsmouth take station and, as a result, could experience a reduction in supply pressure provided by the Algonquin Gas Transmission Company (AGT).

The potential consequence of the Navy CHP project operating with firm gas service on a day when the temperature exceeds the 52 HDD threshold is that distribution system pressures may fall below system design minimums, placing existing customers on Aquidneck Island, including the Navy base, at risk of service interruption, which would result if there were a significant reduction of the AGT supply pressure at the Portsmouth take station. Service interruption would occur if distribution pressures fell to a level too low to facilitate gas equipment operation. In general, the risk of service interruption would increase based on the extent to which the 52 HDD threshold is exceeded. Based on hydraulic modeling of the distribution system, it is less likely that the Navy base itself, including the CHP unit, would experience any interruption of gas service as result of its location on the distribution system. Existing customers downstream of the Navy CHP unit in the downtown Newport and Newport Neck area of the distribution system would be at greater risk of gas service interruption. The size of the area and number of customers at risk would depend on the temperature conditions and associated customer demand at the time, as well as the supply pressure provided by AGT to the Portsmouth take station. The primary driver for any interruption to customer service would be if significantly lower than normal AGT supply pressure resulted from exceeding the MDQ. The Company, however, would

Division 9-2, page 2

not expect the issues that occurred as part of the over-pressurization in Lawrence, Massachusetts, to result from a potential under-pressurization on Aquidneck Island.

AGT supplies gas to the Portsmouth take station where the pressure is regulated down to supply the Company's 99 psig distribution system that serves Aquidneck Island. If the supply pressure provided by AGT were to be significantly lower than normal, the outlet pressure on the regulator at the Portsmouth take station could begin dropping, resulting in lower than normal pressures downstream on the distribution system. Hydraulic analysis under 68 HDD design conditions (i.e., maximum customer usage) predicts that an AGT supply pressure less than 125 psig would cause the outlet pressure of the regulator supplying the 99 psig distribution system to begin dropping. As the supply pressure (inlet to the regulator) and outlet pressure continue to drop, the risk of service interruption to existing customers increases.

To provide some perspective, the Company experienced a 60 HDD condition on Gas Day January 6, 2018, and the supply pressure to the Portsmouth take station was recorded at 342 psig during the peak gas usage hour of the day. If the Navy CHP unit had been operating, the load on Aquidneck Island would have increased by approximately 10%. Although it is unlikely that this added load would have caused the supply pressure to drop by more than 200 psig to fall below 125 psig, the Company cannot say for certain what the actual impact of this added load would have been. However, if its operation would have caused the pressure to fall below 125 psig, and assuming the distribution system reinforcement described in the Company's response to Data Request Division 2-3 had been constructed, the Company expects that the Aquidneck Island distribution system would withstand an approximate 25 psig drop in the normal regulator outlet pressure at the take station (assuming an 85 psig AGT supply pressure) without causing distribution system pressures to fall below minimum design levels such that existing customers would be at risk of service interruption. Specifically, this equates to outlet pressures feeding the 99 psig distribution system of approximately 66 psig, 70 psig, 75 psig, and 78 psig for 55 HDD, 60 HDD, 65HDD, and 68 HDD conditions, respectively.

If the Navy CHP project was operating with firm gas service on a day when the temperature exceeded the 52 HDD threshold, and the Company experienced a significant enough drop in pipeline supply pressure at the Portsmouth take station to place existing customers on Aquidneck Island at risk of service interruption, then, as a contingency, the Company would take measures to send a crew out to the site to physically shut a valve on the gas service supplying the Navy's CHP equipment, consistent with the proposed contract language in the draft Commercial Gas Service/Main Agreement currently being reviewed by the Division of Public Utilities and Carriers.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-3

Request:

The Company appears to be proposing to provide a modified form of firm gas service for the CHP unit by negotiating a special provision that allows the Company to require the CHP unit to shut down on days when the temperature is forecasted to exceed a 52 HDD threshold. It is important for the Division to have a thorough understanding of the effectiveness of the proposed solution to address the risks. The Division previously asked a data request how much notice the Navy and BQ Energy will "need" in order to switch to its oil-fired steam plant when this happens (Division 6-13). However, the response only stated that the Navy finds that a 24-hour notice is an "acceptable time frame."

- (a) Since the Navy's central plant boiler will remain in standby running mode while the CHP is operating, can the Navy switch over to the central heating system on immediate notice without creating a condition where all or a portion of the Navy base is without heat for a long enough period to the point that it causes an unreasonable risk to the Navy base? Please explain.
- (b) Please disclose how much notice the Navy and BQ Energy will absolutely need to switch to its oil-fired steam plant if the CHP unit must be shut down to avoid immediate emergency conditions on Aquidneck Island. (For purposes of this question, assume the "need" is based on avoiding a condition where all or a portion of the Navy base is without heat for a long enough period to the point that it causes an unreasonable and unacceptable risk to the Navy base on what would be one of the coldest days of the year.)
- (c) Has the Company evaluated whether there are other conditions on days that might fall short of 52 HDD that could occur on Aquidneck Island and the surrounding area that could create a significant capacity or pressurization risk due to the operation of the CHP unit on days where notice has not been given of a 52 HDD? If so, please describe. How would such risks be addressed in such instances if the gas service to the CHP unit is firm and, therefore, cannot be interrupted under the terms of the proposed modifications to the firm service agreement?

Response:

- (a) Yes. The Navy has informed The Narragansett Electric Company d/b/a National Grid (the Company) that, when the CHP Unit is operating, the Navy will keep one boiler on in parallel sharing the load with the output from the Heat Recovery Steam Generator

Division 9-3, page 2

(HRSG) maintaining steam pressure and load. Further, the Navy has informed the Company that it will maintain a second boiler in a hot standby condition at low fire. This second boiler will be ready if the CHP unit fails or if the steam load exceeds the capacity of the first boiler and CHP HRSG combined output. Moreover, the Navy has informed the Company that it can activate its third boiler to pick up additional load. The Navy can activate the third boiler in 30 minutes from a cold start by use of a thermal blanket, or the Navy can heat the third boiler from cold conditions over a three-hour period without use of a thermal blanket. Because the Navy's central steam plant will remain in staged "hot standby" running mode while the CHP is operating, the Navy is able to switch over the full load to the central steam plant on immediate notice. The Navy has informed the Company that this will not create a condition where all or a portion of the Navy base is without heat for a long enough period to the point that it causes an unreasonable or unacceptable risk to the Navy base. When the CHP equipment is not operating, the central steam plant will increase its oil consumption to meet the Navy's central heating and domestic hot water needs.

- (b) The Navy has informed the Company that it will be able to immediately switch to the first two boilers in its oil-fired steam plant if the CHP unit must be shut down. If the third boiler in the central steam plant is necessary to handle the load necessary to replace the CHP unit production, the Navy absolutely will need no more than three hours to activate the third boiler.
- (c) Yes. The Company's Operations Engineering group modeled the impact of the increased gas load associated with the CHP equipment for conditions colder than 52 HDD and warmer than 52 HDD. Other than cold weather, there are no normal conditions that could occur on Aquidneck Island and the surrounding area that could create a significant capacity or pressurization risk due to the operation of the CHP unit.

It is possible that an unexpected drop in pipeline supply pressure could occur due to required work on the Algonquin Gas Transmission (AGT) system. Similarly, an unexpected drop in pipeline supply pressure also could occur due to abnormal operating conditions on AGT's system. It also is possible that the Company may need to perform unexpected repairs on its distribution system, creating an abnormal operating condition. A widespread electric outage across Aquidneck Island could result in a significant heating load surge when power is restored, which also might affect system pressures. Any risks associated with these circumstances would arise with or without the operation of the CHP unit. The Company will make every reasonable effort to maintain an uninterrupted supply of gas during such events. If such an abnormal condition required a

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-3, page 3

curtailment or interruption on Gas Days that are warmer than 52 HDD, the Company has the authority to require the curtailment or interruption pursuant to Section 10 of the Rhode Island Public Utilities Commission Gas Tariff (RIPUC NG-GAS No. 101):

Whenever the integrity of the Company's system or the supply of gas is believed to be threatened by conditions on its system or upon the systems with which it is directly or indirectly interconnected, the Company may, in its sole judgment, curtail or interrupt gas service or reduce pressure and such action shall not be construed to constitute a default nor shall the Company be liable therefore in any respect. The Company will use reasonable efforts under the circumstances to overcome the cause of such curtailment, interruption or reduction and to resume full performance.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-5

Request:

Has the Navy and/or BQ Energy agreed in writing to the measures deemed necessary to address these risks? If so, what enforcement provisions exist? Given the Department of the Navy is a federal agency, has the Company undertaken any analysis of how it would execute such enforcement measures under Rhode Island law?

Response:

No. Both the Navy and BQ Energy, LLC (BQ) have agreed orally to the cessation of natural gas consumption for the CHP unit on Gas Days (defined as the time period from 10:00 a.m. to 10:00 a.m.) that exceed a 52 HDD condition, subject to limited exception in the event of an electric utility service outage that causes an overall reduction in gas consumption on Aquidneck Island. Currently, neither the Navy nor BQ has agreed in writing to these terms, but they have indicated that they are willing to do so. On October 1, 2018, the Navy requested that the CHP gas account be placed in its name. The Narragansett Electric Company d/b/a National Grid (the Company) has developed a new draft Commercial Gas Service/Main Agreement (Draft Agreement) with the Navy as Applicant. A copy of this Draft Agreement is provided as Attachment DIV 9-5. This Draft Agreement includes the proposed 52 HDD provision and associated language. The Company has provided this Draft Agreement to the Rhode Island Division of Public Utilities and Carriers (the Division) for review. Once the Division confirms that it is comfortable with the terms of the Draft Agreement, the Company will provide the Draft Agreement to the Navy for further review and execution.

In the event that the Navy uses natural gas on any Gas Day that exceeds a 52 HDD condition without first obtaining the Company's consent, the Company may terminate service to the Navy until such time as weather conditions warrant resumption of service. This is an enforcement provision contained in the current Draft Agreement that addresses the risk of potential service interruption to customers on Aquidneck Island. If the Navy failed to cease using gas in its CHP equipment after notification by the Company, the Company would take measures to send a crew out to the site to physically shut a valve on the gas service supplying the Navy's CHP equipment. Additionally, the Company would be able to pursue an adequate legal remedy if the Navy failed to fulfill its obligations under the contract. The fact that the Navy is a federal agency does not interfere with the Company's ability to enforce its contractual rights.

Terms and Conditions of Commercial Gas Service Agreement

1. Applicant agrees to pay National Grid to aid in the construction of the natural gas service line and associated main work required to provide service to the Premises. In the event that the actual service line length exceeds the estimated footage, National Grid may bill the property owner at a rate of (Excess Footage Fee) over the estimated service line length.
2. Once the meter is set, the Applicant becomes the customer of record and National Grid will commence billing the Applicant. The Applicant agrees to pay for gas service pursuant to the applicable rate classification and in accordance with National Grid's Terms and Conditions, as filed from time to time with the Rhode Island Public Utilities Commission.
3. National Grid will take reasonable measures to minimize damage to Applicant's property. National Grid will not be responsible for private property restoration.
4. National Grid will install the necessary natural gas distribution system to the site, subject to weather conditions and all federal, state and local codes and permit requirements.
5. Notwithstanding the foregoing, National Grid may, at any time, terminate this Agreement without any further obligations, in the event of one of the following "Triggering Conditions": (a) it discovers that there is no active natural gas main in close proximity to Applicant's property for which a service connection can be made in a reasonably cost effective manner (b) it discovers conditions (including, without limitation, ledge, steep grades, and retaining walls), that would, in National Grid's judgment, materially increase the cost of installation, or (c) the fees for the required permits are significantly in excess of what is typical for such work (d) National Grid is unable to obtain the necessary permits to install the gas service line. In the event of a Triggering Condition, National Grid shall consider any Applicant proposals for an adjustment of price.
6. National Grid will not be responsible for delays or damages associated with the installation of a gas service line due to weather or the issuance of permits, nor will it be responsible for damages attributable to unforeseen conditions beyond its control.
7. (New Construction Only) Applicant shall construct, or cause the construction of all necessary water lines, sewer lines, roads and electrical lines, and will perform other necessary work required to prepare the site for the installation.
8. Applicant shall provide all easements and rights-of-way necessary for National Grid to install natural gas distribution lines required to provide service to the Premises.
9. National Grid will accept or modify the meter location shown on the front of this form based upon its installation requirements.
10. Applicant assumes full and complete responsibility for any and all costs associated with any environmental contamination encountered by National Grid during the installation, including but not limited to the costs to clean up or remediate such contamination.
11. In the event that environmental contamination is encountered during the installation, all work shall cease and National Grid shall provide oral and written notice to the Applicant within a reasonable time. Thereafter, National Grid shall have no further obligations under this agreement.
12. Applicant shall, to the fullest extent permitted by law, indemnify, hold harmless and release National Grid, its parent company, affiliates and subsidiaries and their respective directors, officers, employees, agents, servants, representatives, successors and assigns from and against all claims, demands, liabilities or expenses related to environmental contamination at or in the vicinity of the Premises. This indemnity and release provision survives the expiration or termination of the Agreement and extends to the respective successors and assigns of National Grid and Applicant.
13. National Grid shall own the natural gas distribution system up to the outlet side of each individual customer meter.
14. All installations where excavating and back filling are to be performed by Applicant or his/her designee will be performed in compliance with National Grid's specifications, and the installation shall not commence until said trench is inspected and accepted by a representative of National Grid.
15. In the event that the gas equipment identified on the front of this agreement is not installed and in use within six months of the date of installation of the service line, the Applicant agrees to pay National Grid for the cost of installing all gas lines necessary to serve Premises, minus any prior contribution in aid of construction made to National Grid.
16. Prior to the start of the work described on the front of this agreement, Applicant is responsible for marking out any underground facilities on their property that are not marked out as a result of National Grid's notification of the Dig Safe system.
17. This Agreement may be modified only by a writing signed by National Grid and Applicant; any verbal representations or modifications by National Grid employees or others shall be null and void.
18. The laws of the State of Rhode Island shall govern this Agreement.
19. If Applicant changes the primary fuel from natural gas to an alternate fuel source during the first five (5) years after billing commences, National Grid reserves the right to reevaluate the financial impact of this change and bill Applicant for a portion of its original investment.
20. If any terms of this Agreement or portions thereof are declared or become invalid or unenforceable, the remainder of this Agreement shall continue in full force and effect.
21. *Customer quote is valid for 90 days from the date of the "National Grid Rep Signature" below. After 90 days, this amount is no longer valid and is subject to change.

Terms and Conditions of Commercial Gas Service Agreement (contd.)

22. Applicant shall, to the fullest extent permitted by law, indemnify, hold harmless and release National Grid, its parent company, affiliates and subsidiaries and their respective directors, officers, employees, agents, servants, representatives, successors and assigns from and against any and all claims, demands, liabilities or expenses related to the cessation of natural gas utilization on days which exceed a 52 HDD condition. This indemnity and release provision survives the expiration or termination of this Amendment and extends to the respective successors and assigns of National Grid and applicant.
23. This agreement is subject to the Company's Gas Tariff, as amended or superseded from time to time. In the event of any inconsistency or conflict between the terms of this agreement and the Company's Gas Tariff, this agreement will govern.
24. Sections 12, 13, 18, 22 and 23 shall survive expiration or termination of this agreement and shall be binding on the respective successors and assigns of National Grid and Applicant.

ATTACHMENT 1 SUPPLEMENTAL CONDITIONS

1. Definitions.

“Gas Day” means a period of twenty-four consecutive hours commencing at 10:00 A.M. local time.

“Heating Degree Day” or “HDD” means the departure of the Gas Day mean temperature from 65 degrees Fahrenheit, as measured by the Company’s weather provider and reported to Company. If the Gas Day mean temperature is greater than 65 degrees Fahrenheit, then HDD equals zero.

2. Additional Notes.

The following provisions are added to the Notes at the bottom of the first page of the agreement:

Applicant agrees to cease using natural gas by not later than 10:00 A.M. Eastern Standard Time on any Gas Day that is forecasted to exceed a 52 heating degree day (HDD) weather condition at T.F. Green International Airport in Warwick, Rhode Island (USW00014765). The Company shall provide as much notice to Applicant as is reasonably practical of its forecast of a Gas Day that is expected to exceed 52 HDD. In any event, if National Grid determines that actual conditions exceed 52 HDD at any time, then National Grid shall provide notice to the Navy and the Navy shall immediately cease using gas.

In the event that there is an electric utility service outage on such Gas Day at the Premises, Applicant may request authorization from the Company’s gas control representative to utilize natural gas on such Gas Day by calling either 877-304-1209 or 508-421-7590 to state the request and emailing GasControlNewEngland@nationalgrid.com to make the request in writing. The Company will, in its sole discretion, determine whether it can accommodate the request using capacity resulting from a reduction in gas usage by other customers on Aquidneck Island also affected by the electric outage. If the reduction in consumption by other customers permits the Company to accommodate the request, the Company will inform Applicant that it can use natural gas during the outage until such time as the electric outage is restored, or the Company observes that usage by other customers has increased such that the Company no longer can accommodate Applicant’s gas usage. If Applicant is allowed to use natural gas on such Gas Day, Applicant agrees to cease using gas service from the Company immediately upon restoration of the electric utility service or upon notification from the Company that it no longer can accommodate Applicant’s gas usage.

In the event that Buyer uses natural gas on any Gas Day that exceeds a 52 HDD condition without first obtaining the Company's consent pursuant to this provision, the Company may terminate service to Applicant until such time as weather conditions warrant resumption of service. Prior to terminating service pursuant to the preceding statement, the Company will undertake reasonable efforts to provide notice to Applicant of the impending termination.

Applicant understands that under the Company's gas tariff, RIPUC NG-GAS No. 101 (the "**Gas Tariff**"), the Applicant is entitled to an uninterrupted supply of gas and, further, a continuous supply of gas of not less than 1,000 Btu per cubic foot, as a Firm customer receiving service under the Rate 34 provision of the Gas Tariff, except under certain conditions set forth by the Gas Tariff. Notwithstanding such rights under the Gas Tariff, Applicant agrees to the interruptions described in this provision and waives its right to an uninterrupted supply of gas and a continuous supply of gas of not less than 1,000 Btu per cubic foot under the specific circumstances described herein.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-8

Request:

Referring to the response to Division 6-5, it states in part: "For large loads, the Company normally evaluates the impact of proposed load additions on upstream gas supply assets. This analysis was not performed on the upstream gas supply assets feeding the Portsmouth take station prior to making its notification in this docket."

- (a) If the Company normally evaluates the impact on upstream gas assets for large loads, why did the Company not perform that evaluation before offering the CHP incentive and before executing a Commercial Services/Main Agreement with the customer on May 4, 2018 which appears to assume unconditional firm service on Rate 24? Please be as complete as possible in answering this question.
- (b) Why did the Company not disclose in the answer to Division 2-4, Division 6-5, or Division 6-6 the fact that the Company had misinformed the Navy on this firm gas service issue prior to offering the incentive to the Navy, as reflected in the email of January 10, 2018 (Attachment DIV 4-1, p. 779)?

Response:

- (a) Please see the Company's response to Data Request Division 9-6. The Lead Account Manager – Customer Gas Connections understood upstream gas assets to include the Portsmouth take station, and he believed that the evaluation of upstream gas assets had been completed on May 1, 2018 when Pressure Regulation Engineering confirmed that the Portsmouth take station had adequate capacity to flow the added load associated with the CHP equipment, including the Spectra meters and heater capacities at the station. He did not understand that he needed to follow up with the Manager – NE Portfolio Planning to confirm whether additional supply questions needed to be answered.

In August 2018, the Company memorialized the process by which the Customer Gas Connections account managers are to obtain e-mail approval for large gas load additions (> 50,000 cfh) from Long Term Planning & Operations Engineering, and Gas Supply (NE Portfolio Planning) prior to executing a Commercial Gas Service/Main agreement with an applicant for firm gas service. Please see Attachment DIV 9-8.

- (b) Although the Company had misinformed the Navy that the existing boiler plant would no longer need interruptible service, as reflected in the email of January 10, 2018 (Attachment DIV 4-1, page 779), the Company corrected this statement during a meeting

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-8, page 2

on June 5, 2018 among the Navy, BQ Energy LLC, and NKE Engineers to review a document (Attachment DIV 4-1, pages 1381-1386 and pages 1427-1432) from May 17, 2018) which contained several questions and comments related to the CHP project. Among the questions and comments provided was the following:

Navy question: The current rate charged by National Grid is a rate for interruptible customers, and the Navy was grandfathered into this rate years ago. If the CHP project changes the rate to firm, and the CHP project does not go to term (for any reason), would the Navy be able to revert back to the grandfathered interruptible rate? If not, what rate would the Navy be eligible to go on?

BQ comment: There is no change in the Navy's existing contracts. Firm gas is for the CHP only.

National Grid comment: Your existing account for the boilers will remain as is (Non-firm). The CHP will be a new service with its own meter billed as Firm Gas meter.

National Grid also confirmed the above comment during the meeting on June 5, 2018.

Because the incorrect statement from January 10, 2018 had been corrected, the Company did not disclose in the answer to Data Requests Division 2-4, Division 6-5, or Division 6-6 the fact that the Company had misinformed the Navy on this firm gas service in the e-mail of January 10, 2018 (Attachment DIV 4-1, page 779).

OBTAINING APPROVALS FOR ADDING LARGE LOADS TO OUR SYSTEM

We have designed a new process (with the involvement of both Gas Supply and Long Term Planning & Operations Engineering (LTP&OE) teams) under which certain size added loads have to be authorized, **(PRIOR TO SALE)** by the (2) respective teams during the evaluation process and prior to the sale moving forward.

NEW PROCESS / POLICY:

- A) Prior to obtaining a signed Gas Sales Agreement (SLA) from a customer, the Gas Connections / Sales team (Account Rep) will **email both Long Term Planning & Operations Engineering (LTP&OE) team (consisting of Steve Caliri and the engineer evaluating the job) as well as Gas Supply team (consisting of Liz Arangio, Nancy Culliford and Brian Spencer)** a request that specifies the take station that the proposed added load is to be fed from, for dual approval, on any new project prior to making the sale:
 - 1) When the added load is over 50,000 CFH (50 dth/hr) in Rhode Island
 - 2) When the added load is over 100,000 CFH (100 dth/hr) in Massachusetts
- B) **Both Long Term Planning & Operations Engineering (LTP&OE) and Gas Supply team will reply to the request** via email, either approving or rejecting it. If the project is rejected the project can not be sold.
- C) The Gas Connections Account Rep will save the email response from Operations Engineering and Gas Supply under the Gridforce Opportunity ID.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-9

Request:

Among the copies of emails provided on October 11 (Division 4-1, page 1285), the Company received a set of questions from the Navy and BQ Energy on May 15, 2018. One of the questions asked:

“It is commonly known that natural gas pressure on the island is insufficient to meet the winter demand load on Aquidneck Island. What is being done to increase the supply to the island to satisfy the large GTG natural gas demand?”

Did the Company take any steps to investigate the answer to this question? If so, what was the answer given?

Response:

Please see Attachment DIV 4-1 at page 1431. The Lead Program Manager – CHP, EE Program Execution provided the following answer:

“National Grid is doing upgrades to our system to provide the flow and guaranteed pressures for this project as a firm customer rate.”

The Lead Program Manager – CHP, EE Program Execution, provided this answer interpreting the question to refer to local distribution system constraints on Aquidneck Island and not gas supply constraints upstream of The Narragansett Electric Company d/b/a National Grid's (the Company) distribution system. Accordingly, the Company did not take any steps to investigate the answer to this question as it related to supply constraints.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-11

Request:

It appears to the Division that the Company is proposing to negotiate a special firm service agreement outside of the tariffs on file with the Commission that would create a hybrid, non-tariffed service for BQ Energy that has service conditions that are more favorable than the Non-Firm Transportation Service Rate 61, but less favorable than either firm service Rate 24 or Rate 34. Further, based on the response to Division 6-4, it appears that the Company has no intention of obtaining approval for this special off-tariff service from the Commission. Please explain why a privately negotiated agreement with special terms that are not specified as an option in the firm service tariffs or the non-firm service tariffs for other customers and is not on file with the Commission would not require Commission approval, as may be required in R.I.G.L. § 39-3-10 or § 39-2-2.

Response:

The Narragansett Electric Company d/b/a National Grid (the Company) proposes to provide firm service to a new Navy account for the CHP equipment in accordance with the standard Rate 34 firm service rate schedule. Among the proposed agreement terms, the Navy would agree to cease using natural gas in the CHP equipment on any day that is forecasted to exceed a 52 heating degree day (HDD) weather condition and agree to waive its right to an uninterrupted supply of gas. All other terms of the Rhode Island Gas Tariff would remain in effect.

The Company does not believe that Rhode Island Division of Public Utilities and Carriers (the Division) or Rhode Island Public Utilities Commission (PUC) approval is required for the proposed agreement because:

- a. it does not specify an off-tariff rate structure, which would require Division and/or PUC approval;
- b. it specifies the Rate 34 rate schedule, which is filed and made available to the public (in accordance with R.I. Gen. Laws § 39-3-10);
- c. the pricing terms of Rate 34 firm service will not be altered thereby avoiding rate discrimination (in accordance with R.I. Gen. Laws § 39-2-2); and
- d. it does not modify the terms of the Rhode Island Gas Tariff. The Navy would agree to waive one of its rights within the tariff (i.e., the right to a continuous supply of natural gas) in exchange for the ability to avail itself of firm service from the Company. In the absence of such an agreement, the Company would not be able to provide the Navy with firm service.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-11, page 2

Notwithstanding the above, the Company has provided the draft agreement to the Division for review and comment, and the Company is awaiting informal Division approval before reaching a final agreement with the Navy.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-12

Request:

Please provide copies of any and all internal communications, emails, and presentations that address the issue of the adequacy or inadequacy of gas capacity to the Aquidneck Island and Portsmouth areas, as it relates to the operation and potential impact of the proposed Navy CHP project taking any form of firm or interruptible service.

Response:

The Narragansett Electric Company d/b/a National Grid (the Company) is in the process of performing an electronic search for internal e-mails and presentations between and among Company employees that discuss the issue of the adequacy or inadequacy of gas capacity to the Aquidneck Island and Portsmouth areas, as it relates to the operation and potential impact of the proposed Navy CHP project taking any form of firm or interruptible service. The search is being conducted using the following criteria:

- Company Employees: Matt Foran, Stephen Caliri, Elizabeth Arangio, Mark Sevier, Gerald Ferris, Jeff Dunham, Thomas Dion, Fred Paine, Michael Mokey, Faye Brown, and Nancy Culliford
- Search Terms: Navy and CHP and adequacy and "gas capacity" and ("aquidneck island" or Portsmouth or Middletown or Newport) and (firm or interruptible) and (operation or impact)
- Timeframe: September 16, 2016 to the present

Once the electronic search is complete, and the Company has reviewed any documents identified from the search, the Company will supplement this response with the results and provide copies of any responsive documents.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-15

Request:

Referring to the response to Division 7-2(c) and Division 6-3, given the fact that the BCA employs a societal cost test, why would it not be appropriate to include the cost of the gas distribution system reinforcement project and service line as a cost in the BCA since the reinforcement project and service line costs are being incurred by the Company, these costs will be capitalized, and the capital costs would eventually be included in rate base upon which the Company will earn a return and recover depreciation expenses from ratepayers?

Response:

The costs of the gas distribution system reinforcement project and service line have been appropriately treated in the energy efficiency benefit cost analysis (BCA) for two reasons.

First, as noted in The Narragansett Electric Company d/b/a National Grid's (the Company) response to Data Request Division 6-3, a Contribution in Aid of Construction (CIAC) is not required for this system reinforcement project because the incremental revenue collected from the customer covers the Company's investment in the required gas system upgrades. The Company made this determination by running the project through the Rhode Island Gas CIAC Model. This model is designed to calculate a revenue requirement for the project, which provides for recovery of items such as the allowed rate of return on the investment, depreciation, and property tax. In this case, the projected incremental revenue exceeds the calculated revenue requirement, which eliminates the need to collect a CIAC. The Company agrees that the construction costs associated with this project eventually will be included in rate base. At that time, the revenue requirement on the investment will be offset by the actual revenues generated by this project and will not be expected to result in any incremental costs to be recovered from customers.

If there were incremental gas infrastructure costs that are not borne by the Company, but are instead paid by the customer, then those costs would be included as a customer cost in the BCA because those costs would be incremental to the gas avoided costs.

Second, the BCA includes the avoided gas costs values from the 2015 Avoided Energy Supply Cost (AESC) study, which already includes the cost of the retail margin, which estimates the cost of transporting gas from the local delivery company (LDC) delivery point to the end use customer and is intended to reflect all distribution costs, including capital and operating costs. Accordingly, this input to the BCA accounts for the LDC's returns for any infrastructure investment funded by the Company.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-15, page 2

Additionally, even if the Company, hypothetically, included the costs of the gas distribution system reinforcement project and service line as costs in the energy efficiency BCA, the project still would be cost-effective. In this hypothetical scenario, the benefit-cost ratio would decrease only from 1.18 to 1.17.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-16

Request:

Referring to the Notification, page 2 of 3, please describe and provide an estimate of the “necessary upgrades to the Company’s electric distribution infrastructure.” Please also indicate whether there will be a CIAC associated with these upgrades and provide the results. Please also indicate whether any estimated costs for the upgrades were included in the benefit cost screening analysis.

Response:

The Narragansett Electric Company d/b/a National Grid (the Company) has determined that there are no local electric distribution infrastructure upgrades necessary for this project. Currently, ISO-NE is studying the impact of the Navy’s CHP project to determine whether there will be any upgrades in order to connect in parallel with the Company’s transmission system.

For the benefit cost screening analysis, potential costs for these upgrades are accounted for as costs because the developer reserved \$250,000 for engineering study costs and any required electric distribution infrastructure upgrades. In addition, the developer reserved \$1 million for contingency costs as part of the overall cost of the project. Once ISO-NE completes the impact study and determines whether there are electric infrastructure costs, the Company will rescreen the project and re-evaluate the benefit cost analysis using those newly determined costs. If, as a result, the results of the benefit cost screening change, then the Company may need to renegotiate the offer letter, up to and including cancellation of the project if it is no longer feasible.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-17

Request:

Referring to the response to Division 6-15, the Division was requesting that the Company consult its gas supply experts to indicate whether they believe using an avoided gas cost pre-determined table of savings values is an appropriate and reasonable means of forecasting the actual gas costs of the Navy project. But the answer was not sponsored by one of the Company's qualified gas market experts (such as Stephen Caliri and Elizabeth Arangio who co-sponsored Division 2-4, or one of their qualified colleagues) and the response answered the wrong question. Instead, the sponsor of the data response stated, in part: "Yes, the entire company recognizes that the 2015 avoided costs . . . are the appropriate and reasonable costs for screening energy efficiency measures such as CHP."

Please have either or both Stephen Caliri and Elizabeth Arangio (or one of their qualified colleagues) answer the specific question that was posed in Division 6-15, regardless of whether the "entire company" believes using the table is reasonable as a screening tool.

Response:

Yes, for the purpose of the energy efficiency cost benefit analysis, which is described in the Company's responses to Data Requests Division 2-2 and Division 6-15, the avoided costs of gas from the 2015 Avoided Energy Supply Costs study (AESC) are the appropriate and reasonable means of forecasting actual gas costs. The AESC study methodically analyzes costs that are avoided (or increased) because of energy efficiency. Use of the AESC study as the source for energy efficiency costs and benefits is a well-established industry methodology.

The 2015 AESC gas avoided cost includes the following components:

- The avoided cost of gas delivered to the local distribution company (LDC);
- The avoided cost of delivering gas on the LDC system (the "retail margin"); and
- The non-embedded value of carbon and cross-fuel demand reduction induced price effect (DRIPE).

These costs may differ from what the Rhode Island Division of Public Utilities and Carriers refers to as "actual costs." Nevertheless, retail margin, carbon and DRIPE are counted as benefits in the RI Test and are, therefore, appropriate to count as costs in order to be forward looking and create symmetry, principles the Rhode Island Public Utilities Commission supported for the RI Test.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-18

Request:

Referring to the Company's testimony in Docket 4872, regarding the increase in fixed costs arising out of supplier demand charges and the need to assure deliveries of supply at delivery points outside of Rhode Island, please explain whether the increase in supply costs resulting from higher supplier demand charges are taken into account in the incremental gas costs estimated in the BCR. Please also explain the extent to which adding the incremental firm gas load from the CHP unit would likely increase the amount of supplier demand charges the Company, BQ Energy, or the Navy would have to incur to maintain firm service on cold days that might not exceed 52 HDD.

Response:

The 2015 Avoided Energy Supply Cost (AESC) study used to develop the Company's Benefit Cost Ratio did not reflect the tightening of the New England natural gas market during peak winter periods and the associated increase in the value of incremental peak period supply. The 2015 AESC anticipated that incremental pipeline projects would be constructed to bring additional Marcellus supplies into the region as demand grew. Since that study was performed, pipeline expansion projects have added negligible amounts of peak day capacity and the region remains capacity-constrained during peak winter periods. The pricing implications of the tight New England market are reflected in the 2018 AESC.

The Narragansett Electric Company d/b/a National Grid (the Company) expects that the CHP project will come on line in 2020. Consequently, the Company did not include any of the load associated with this project in forecasted customer requirements during the current 2018-19 Gas Cost Recovery (GCR) filing in Docket No. 4872. Therefore, none of the supplier demand charges for the current GCR period to date would be attributed to this project. Additionally, because there will be no load from this project during the 2018-19 GCR period, there can be no increase in supplier demand charges associated with the project during that period.

When the project does come on line, the Company will need to determine what level of incremental assets it may need over and above the resources in its portfolio. To do so, the Company will look at total resources compared to total requirements, not only those requirements associated with the project load. To serve total load, the Company will seek to contract for the least-cost, reliable resources available in the marketplace. It is not possible to predict the structure of the arrangements that will be available in the marketplace (i.e., how the incremental assets will be priced).

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-19

Request:

Referring to the response to Division 6-2, please provide the calculations for the alternative BCR shown on page 2 that moved the starting date for the CHP unit from 2018 to 2021. Please also explain why the electric \$ benefits and oil \$ benefits increased from the prior BCR, where the net present value analysis eliminated near term savings in 2018 through 2020 and replaced them with savings that occur in years 2039, 2040, and 2041.

Response:

Please see Attachment DIV 9-19, which is an Excel document that includes calculations for the BCR that moved the starting date from 2018 to 2021. Specifically, the calculations are on tab "Navy CHP 2021-2040" in rows 6, 8, and 19.

The calculations of the avoided costs used in tab "Navy CHP 2021-2040" are included in the "Avoided Costs 2021" tab of Attachment DIV 9-19 in the columns labeled "Cumulative." The "Cumulative" column was modified to cumulate just the years between 2021-2041 to calculate the alternative BCR using the following formula:

$$=NPV(\text{realdiscrt},(\text{SumAnnualYearRange}))/ (1+\text{realdiscrt})^{\text{Half_Year}}$$

Where:

NPV = Net Present Value

Realdiscrt = Real Discount Rate

SumAnnualYearRange = the sum of the annual values in the range of year the cumulative value is needed. For example, for year 2023, it would be the sum of the annual values in years 2021, 2022, and 2023.

Half_Year = Half-Year Discount of 50% due to the assumption that the project occurs at some point during the year, not necessarily on January 1.

In providing this calculation, there is a slight difference of less than 0.1% between Attachment DIV 9-19 and Attachment DIV 6-2, which is due solely to rounding.

The values in columns labeled with "Annual" (e.g. column W) refer to annual avoided costs that are a direct output of the 2015 Avoided Energy Supply Cost study (AESC), and, therefore, there are no calculations for the values. For each corresponding year, those values are consistent among AESC, the BCR in the Company's responses to Corrected Division 1-3, and Division 6-2.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-19, page 2

The electric \$ benefits and oil \$ benefits increased from the BCR in the Company's response to Corrected Division 1-3 because the AESC study projects these costs to increase over time, as seen in the increased annual values for benefits on the "Avoided Costs 2021" tab. Because the study finds values increase over time, when the timeframe shifts to later years, the values increase.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Attachment DIV 9-19

The Company is providing the Excel version of Attachment DIV 9-19 on USB Flash Drive.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-20

Request:

Does the Company believe that using the stipulated economic benefits assumption, (i.e., that 80% of the total CHP project costs is equal to the economic benefits to be assumed in the BCR screening test), is consistent with the both Commission's RI Test and the Commission's directive in the Guidance Document in Docket 4600 that "[a]ny proponent of a rate, rate design, or program proposal with associated cost recovery will need to meet the same standards?" (p.2) If so, please explain in the context of why other energy efficiency measures are being evaluated differently, as shown on page 16 of Attachment 4 of the EE 2018 Plan and page 14 of Attachment 4 of the 2019 Plan.

Response:

The Narragansett Electric Company d/b/a National Grid (the Company) believes that its application of economic benefits to the Navy CHP BCR screening test is consistent with the RI Test as approved in Docket 4755 and the Docket 4600 Guidance Document.

The "standards" referred to in page 2 of the Rhode Island Public Utilities Commission's (PUC) directive in the 4600 Guidance Document are the "goals, updated rate design principles, and a new Rhode Island Benefit-Cost Framework, recognizing that further work needs to be done on the Framework." The RI Test, as approved by the PUC in Attachment 4 of the Company's 2018 Energy Efficiency Plan, contains the categories of the Docket 4600 Rhode Island Benefit-Cost Framework that are applicable to energy efficiency. Therefore, by applying the RI Test to the CHP BCR screening test, the Company is applying the Rhode Island Benefit-Cost Framework.

As stated on page 7 of the Docket 4600 Working Group's Final Report to the PUC, "[t]he Framework recognizes that the value of a cost or benefit may vary by time, location, electrical product (real power, reactive power, or reserves), technology, or customer."¹ This is true for the different technologies offered within the 2018 and 2019 Energy Efficiency Plans. As detailed in the Company's Macroeconomic Impacts Analysis, Residential energy efficiency, Commercial energy efficiency, and CHP measures impact the Rhode Island economy in different ways, and, therefore, each have different resulting economic benefit values.² The Company applied the

¹ Docket 4600: Stakeholder Working Group Process Report to the Rhode Island Public Utilities Commission. Raab Associates, Ltd. with Paul Centolella & Associates and Tabors Caramanis Rudkevich (TCR). April 5, 2017

² Macroeconomic Impacts of Rhode Island Energy Efficiency Investments: REMI Analysis of National Grid's Energy Efficiency Programs, prepare by National Grid in August 2014.

Division 9-20, page 2

three different economic multipliers to the corresponding measures within its BCR screening as approved in the RI Test. The PUC approved this methodology as part of the RI Test in Docket No. 4755.

Additionally, the Company recognizes the ongoing process for reviewing, quantifying, and evolving benefits as there is evidence to do so. The 2018 Energy Efficiency Annual Plan was filed in 2017 and submitted to the Rhode Island Energy Efficiency Resources Management Council (EERMC) for vote and approval prior to finalization of the Docket 4600 Guidance Document. The 2019 Energy Efficiency Annual Plan advances the Docket 4600 Principles and Goals (*see* the 2019 Energy Efficiency Annual Plan, Bates page 40). After the 2019 Energy Efficiency Annual Plan was filed with the PUC, PUC Staff held a workshop on the application of the Docket 4600 Benefit Cost Framework on November 1, 2018, which provided further guidance on advancing the use and application of the Framework in future Company energy efficiency filings.

The Company is committed to continuing to quantify energy efficiency benefits in transparent and collaborative ways through the established processes. The 2018 Energy Efficiency Annual Plan Measurement and Verification (M&V) Plan (included at Attachment 3 to the 2018 Energy Efficiency Annual Plan) included a third-party evaluation of the Regional Economics Models, Inc. model and Benefit Study. This plan stated that the objective was to assess the current method of quantifying and applying economic benefits from energy efficiency programs in the BCA and to assess if improvements or new methods should be recommended. The Brattle Group currently is conducting that study, which includes an assessment of the economic benefits of CHP. This study is nearly complete, and the results will be presented before the Rhode Island Energy Efficiency Collaborative before the end of the year. If additional questions arise as to the appropriateness of the application of economic benefits in the BCA, the Company will collaborate transparently on collecting evidence.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-21

Request:

It appears from the email correspondence provided in response to Division 4-1 that the CHP project would not meet the 55% efficiency standard if the project operated during the summer because there is little or no steam requirements during that time. It also appears that the BCR analysis was performed on the assumption that the CHP unit would shut down in mid-May and not commence operation again until mid-October. The minimum requirements document attached to the April 12 offer letter to BQ Energy also states on Page 1 of 4 (paragraph 5a):

“The CHP plant shall operate continuously from Mid-October through Mid-May while the site’s steam heating distribution system is active. The CHP system is not expected to operate Mid-May to Mid-October when the steam distribution system is not active. The estimated annual operating time is 4,500, not counting forced outages.”

Will there be any contractual requirements that prohibit or limit BQ Energy from operating the CHP unit during the assumed shut down period in order to assure that the project does, in fact, meet the 55% efficiency (other than the post inspection and commissioning review)? Is there any consequence to BQ Energy if the CHP operates during those assumed shut-down periods? Please explain.

Response:

The Navy has reviewed the metrics that the Narragansett Electric Company d/b/a National Grid (the Company) laid out and agreed to run the project as designed to meet the 55% or greater system efficiency threshold. The Company will verify their operation for a 1-2 year period for commissioning. After that, the Company will continue to monitor the kWh and kW output for 10 years, and performance incentives are tied to that.

There will be no contractual requirement regarding the shutdown of the unit in the summer. There are reasons why the Navy may run in the summer. For example, the Navy requested that, if there was a power outage in the summer, then it would want to turn the CHP unit on and shed the excess heat. The Company responded that there is nothing preventing the Navy from turning the unit on in that type of situation and, once power was restored, that the Navy should shut the unit off to preserve the annual system efficiency average.

The Company expects that the Navy will continue to operate the unit as it is during the commissioning. If kWh output is drastically different, then, pursuant to the claw back

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-21, page 2

language in the offer letter, the Company can request the unit come back into compliance or repay the incentive money.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-22

Request:

The correspondence contained in Attachment 4-1 and the schedule given in the Notification filed with the Commission on May 31 (p. 2) indicates that the CHP project will not be completed until 2020. Given the apparent completion date of 2020, does the offer letter of April 12, 2018 to BQ Energy need to be re-issued with updated information in order to remain valid because it conditions the incentive on the CHP system being installed prior to November 1, 2019.

Response

Yes. As The Narragansett Electric Company d/b/a National Grid (the Company) noted in its response to Data Request Division 4-1, the Company was in the process of revising the offer letter in October of 2018. The revised offer letter was necessary for two reasons.

First, the Navy requested a change to the language regarding the surety bond/letter of credit. The original offer letter contained a May 2018 bond requirement. The Navy, BQ Energy, LLC (BQ), and the Company determined that date would not be achieved and should not be required. After discussion with BQ and the Navy regarding the appropriate deadline for the bond requirement, the parties accepted the Navy's position that the bond would be required "prior to notice to proceed." Accordingly, the parties made a revision to reflect that change in the revised offer letter.

Second, the parties agreed that they should revise the offer letter to reflect the change to the proposed completion date from November 1, 2019 to March 31, 2020. All parties agreed to this revised completion date.

BQ signed and returned the revised offer letter with the new March 31, 2020, completion date on October 18, 2018. The Company has provided a copy of the revised offer letter as Attachment DIV 9-22.



October 11th, 2018

Paul F Curran, PE
Managing Director
BQ Energy LLC
400 Market Industrial Park
Suite 32
Wappingers Falls, NY 12590

RE: **Amendment to the Energy Efficiency Incentive Offer Letter for 7,000 KW Combined Heat and Power ("CHP") System**

Account #: 504043500 App#: 7798641

Dear Mr. Curran:

Reference is hereby made to that certain Offer Letter dated April 12, 2018 between The Narragansett Electric Company d/b/a National Grid ("National Grid") and BQ Energy, LLC ("BQ") (the "Offer Letter") for the approval of your Energy Efficiency Retrofit Incentive for the installation of the 7MW Combined Heat and Power System ("CHP System") at the Naval Station Newport ("NSN") located at 7 Industrial Street Newport, Rhode Island; adjacent to building 7CC, the Central Steam Plant, (the "Facility") (collectively, the "Project"), Application #7798641 ("Application"), for a total incentive package of \$7,242,200 (the "Incentive Package"), with the condition that the CHP System is installed prior to March 31st, 2020 in accordance with the Program Materials.

National Grid hereby amends Section 9 of the Offer Letter by changing the bolded language from "prior to May 12, 2018" to "prior to notice to proceed" as shown below.

9. Security

BQ agrees to provide security in the following manner:

BQ shall obtain and provide to National Grid, **prior to notice to proceed**, at BQ's sole discretion, either a Letter of Credit¹ or a Surety Bond², (BQ's choice of security referred to herein as a "Performance Guaranty") in the amount of **\$7,000,000.00**, which shall be obtained and maintained at BQ's sole cost and expense, through the end of the ten year period as described under Section 5 above ("Performance Guaranty End Date"). Receipt of the Performance Guaranty by National Grid is a condition of the offer to BQ under this Offer Letter.

¹ "Letter(s) of Credit" means an irrevocable, unconditional and nontransferable standby letter of credit, in the form attached hereto as Appendix A, which is issued by a major U.S. commercial bank or the U.S. branch office of a foreign bank with, in either case, a Credit Rating of at least (a) "A-" by Standard & Poor's Rating Group (a division of McGraw-Hill, Inc.) or its successors ("S&P") and "A3" by Moody's Investor Services Inc. or its successor ("Moody's"), if such entity is rated by both S&P and Moody's or (b) "A" by S&P or "A2" by Moody's, if such entity is rated by either S&P or Moody's, but not both.

BQ shall be eligible to annually reduce the amount of its Performance Guaranty on or after the anniversary date following commissioning date of the CHP System. National Grid shall cooperate with BQ, as reasonably requested, in providing notices to the issuer of the Performance Guaranty, to effectuate any such permitted reduction.

If the credit rating of the bank issuing any Letter of Credit falls below the level set forth below² at any time prior to the expiration date of the Letter of Credit, or, if the bank repudiates its obligations under, or fails to honor or pay against, the Letter of Credit before the Performance Guaranty End Date, BQ shall furnish or cause to be furnished to National Grid one or more substitute Letters of Credit from a bank meeting the credit rating level set forth in this Offer Letter (a "Substitute Letter of Credit") within two weeks after the occurrence of such event. If the Letter of Credit is terminated before the Performance Guaranty End Date, BQ shall furnish or cause to be furnished to National Grid one or more Substitute Letters of Credit from a bank meeting the credit rating level set forth in this Offer Letter at least thirty (30) days before such expiration. In the event that the BQ fails to comply with the provisions of this paragraph, National Grid may drawdown on the entire Letter of Credit.

If the credit rating of the Surety issuing any Surety Bond falls below the level set forth below³ at any time prior to the expiration date of the Surety Bond, or, if the Surety repudiates its obligations under, or fails to honor or pay against, the Surety Bond before the Performance Guaranty End Date, BQ shall furnish or cause to be furnished to National Grid one or more substitute Surety Bonds from a Surety meeting the credit rating level set forth in this Offer Letter (a "Substitute Surety Bond") within five (5) business days after the occurrence of such event. If the Surety Bond is terminated before the Performance Guaranty End Date, BQ shall furnish or cause to be furnished to National Grid one or more substitute Surety Bonds from a Surety meeting the credit rating level set forth in this Offer Letter at least thirty (30) days before such expiration. If the Surety is declared bankrupt or becomes insolvent, or if its right to do business is terminated, or if its status for any other reason is rendered inadequate for the BQ to meet its obligations hereunder, BQ shall furnish or cause to be furnished to National Grid one or more substitute Surety Bonds from a Surety meeting the credit rating level set forth in this Offer Letter within fifteen (15) days after the occurrence of such event. In the event that the BQ fails to comply with the provisions of this paragraph, National Grid may make a claim against the entire Surety Bond.

In the event the BQ supplies a Surety Bond and/or a Letter of Credit and to the extent National Grid makes a claim against the Surety Bond and/or Letter of Credit for any performance obligation under this Offer Letter and in the event the Surety and/or the issuing bank of the Letter of Credit does not honor it, either in whole or in part (the "Rejected Claim"), then BQ understands and agrees that it shall remain financially responsible to National Grid for such Rejected Claim. In addition, BQ's right to reduce the Surety Bond or the Letter of Credit amount pursuant to this Offer Letter shall be suspended until such time as the BQ satisfies the Rejected Claim.

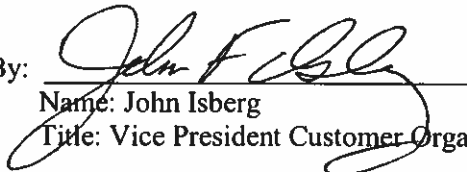
² "Surety Bond(s)" means the form attached hereto as Appendix B, which shall be considered as security for the faithful performance of all of the BQ's contractual obligations contained in this Agreement, issued by a major insurance carrier ("Surety") with a credit rating of at least (a) "B+-" by A.M. Best & National Grid; or (b) "A-" by Standard & Poor's Rating Group (a division of McGraw-Hill, Inc.) or its successors ("S&P").

Except as expressly provided in this amendment to the Offer Letter, all of the terms and provisions of the Offer Letter are and will remain unchanged. Without limiting the generality of the foregoing, the amendments contained herein will not be construed as an amendment to or waiver of any other provision of the Offer Letter.

If the above amendment to the Offer Letter acceptable, kindly acknowledge your acceptance by executing this Offer Letter by signing below. Return one duplicate original to **Jeff Dunham, Lead Sales Representative, Customer Group at 280 Melrose Street, Providence Rhode Island 02907**. This amendment to the Offer Letter does not commit BQ to proceed with the Project. However, by signing this amendment to the Offer Letter, you are agreeing to the terms and conditions of the amendment should BQ decide to proceed with the Project.


Sincerely,

**THE NARRAGANSETTE ELECTRIC
COMPANY D/B/A NATIONAL GRID**

By: 
Name: John Isberg
Title: Vice President Customer Organization

ACCEPTED AND AGREED

BQ ENERGY, LLC

By: 
Name: Paul Curren
Title: Managing Director
Date: 18 October 2018

CC: National Grid- Jeffrey Dunham; Jed Ferris; Fred Paine, Andrea Moshier

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-23

Request:

The text response to Division 4-1 provides a timeline description of events, indicating that emails, meeting notes, or documents were used to develop the timeline description. Please provide copies of any of these referenced emails, meeting notes and documents that were not otherwise included in response to Division 4-1.

Response:

All e-mails, meeting notes, and documents related to the timeline description of events provided in the text response to Data Request Division 4-1 were included in the emails provided as Attachment DIV 4-1.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-24

Request:

Are there any internal emails or presentations between and among the Company employees that discuss the question of how much to offer the Navy or BQ Energy for the CHP incentive?

Response:

The Narragansett Electric Company d/b/a National Grid (the Company) is in the process of performing an electronic search for internal emails and presentations between and among the Company employees that discuss the question of how much to offer the Navy or BQ Energy, LLC (BQ) for the CHP incentive. The search is being conducted using the following criteria:

- Company Employees: Rachel Henschel, Gerald Ferris, Jeffrey Dunham, Fred Paine, and David Moreira
- Search Terms: (Navy or BQ) and (CHP or "combined and heat and power") and Incentive
- Timeframe: September 16, 2016 through May 31, 2018

The Company does not believe there are any emails or presentations responsive to this request. Once the electronic search is complete and the Company has reviewed any documents identified from the search, the Company will supplement this response with the results and will supplement the response to Data Request Division 9-25 with copies of any responsive documents.

Company employees did discuss internally the question of how much to offer for the CHP incentive. The Sales team, the Sales manager, and the CHP program manager discussed the incentive and determined it was appropriate because it was within the approved CHP incentive levels called for by the Energy Efficiency (EE) Annual Plan. Company employees considered that the CHP Incentive levels are approved by the Public Utilities Commission, publicly available, and were provided to the Navy, which set the customer expectations for the range of incentive levels available as part of their determination of the appropriate incentive to offer for the Navy CHP project.

As part of preliminary considerations, the Company determined that the Navy CHP project would qualify for an incentive of \$1000/kW for the 7MW unit under the CHP Incentive levels, and thus a \$7 million incentive. The Company communicated this preliminary determination to the Navy and BQ when discussing the development of the project for high level discussion

Prepared by or under the supervision of:
Rachel Henschel, Gerald Ferris, and Jeffrey Dunham

Division 9-24, page 2

purposes only. The Navy and BQ would have to prove their system met the CHP program rules to qualify for that published range of incentives.

Over the course of project development and through further discussions with the Navy and BQ, the Company determined that the Navy CHP project, the design for which had been modified to a 7.965 MW unit, would qualify for a \$1,125/kW incentive under the CHP Incentive levels, as described in the

Company's response to Data Request Division 2-9. Accordingly, the Navy CHP project qualified for an incentive up to \$8,721,000. Nevertheless, the Company team determining the incentive amount to offer decided to offer the \$7 million incentive originally discussed, plus an additional \$242,000 in performance payments. To make this decision, Company employees considered the high value of the energy efficiency savings that would flow from the proposed incentive. Specifically, the Company considered that, at the \$7 million dollar incentive level, the project would have an excellent incentive cost of 0.96 cents per lifetime kWh saved (\$7 million/723,115,140 lifetime kWh). The Company's planned incentive cost per lifetime kWh in 2018 is 4.0 cents. Accordingly, in determining the incentive value to offer to the Navy and BQ, the Company employees considered that the per-lifetime-kWh cost of the \$7 million incentive for the Navy CHP project represents significant value that will benefit all customers.

The Company approved the proposed incentive via a work management system called In Demand. Through that system, multiple levels of Company leadership, including manager, director, vice president, and senior vice president, approved the incentive. For this project, the In Demand system included access to the following supporting documentation for the individuals approving the incentive to review:

- Benefit Cost Analysis
- Minimum Requirements Document
- Technical Assistance Study
- Peer Review documentation
- The energy model
- The Heat Recovery Steam Generator cutsheet
- Cost reference document

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-25

Request:

If the answer to Division 9-24 above is yes, please provide copies of the emails and presentations.

Response:

Please see the Company's response to Data Request Division 9-24.

The Narragansett Electric Company
d/b/a National Grid
RIPUC Docket No. 4755
In Re: 2018 Energy Efficiency Plan
Notification of an Energy Efficiency Incentive Greater Than \$3,000,000
Responses to the Division's Ninth Set of Data Requests
Issued on October 29, 2018

Division 9-26

Request:

Referring to the Company's incentive compensation programs for employees,

- (a) Please explain generally how employees with job responsibilities associated with meeting energy efficiency targets are compensated annually.
- (b) Please explain the extent to which there are any incentive compensation payouts to any employees relating to new CHP projects.
- (c) Please indicate the extent to which there would be any compensation payouts to any employees if the Navy CHP project goes forward as proposed by the Company.

Response:

- (a) The Narragansett Electric Company d/b/a National Grid (the Company) compensates all management employees annually through a combination of base salary and variable compensation. The Company's Customer Operations team is comprised of vice presidents, directors, managers, sales representatives, program managers, analysts, support processing representatives, and technical sales support representatives and engineers who collectively are responsible for achieving the Company's energy efficiency targets. The variable compensation of directors, managers, program managers, analysts, support processing representatives, and technical sales support representatives and engineers is based on both the individual's achievement of assigned objectives (including energy-efficiency related metrics) and the Company's achievement of corporate objectives. The variable compensation of the sales representatives is based on the individual's achievement of assigned energy efficiency targets (i.e., annual kWh savings for electric energy efficiency and annual therm savings for gas energy efficiency).
- (b) The sales representatives who are assigned electric energy efficiency goals earn variable compensation for the annualized kWh savings toward their individual target. The kWh savings from a CHP project would be included in the kWh savings earned by the individual if one of their assigned customers proceeds with a CHP project.
- (c) If the Navy CHP project goes forward, only the one sales representative responsible for working with the Navy on the CHP project would be eligible to receive variable compensation associated with the corresponding kWh savings as noted in the response to part (b) above.